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NPIC/R-360/63
December 1963

PHOTOGRAPHIC INTERPRETATION REPORT

SA-2 AND SA-3 SAM DEFENSES,
LENINGRAD, USSR

Declass Review by NIMA/DOD



CIA



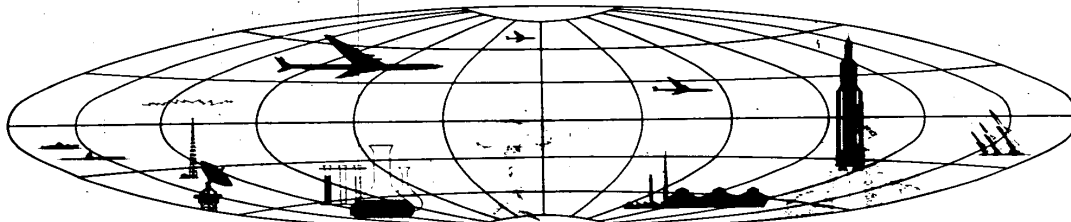
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PREFACE

This report has been prepared in partial response to several requirements for a comprehensive study of the Leningrad defense systems. It presents the chronological development and other information concerning the surface-to-air missile (SAM) sites deployed around Leningrad and is intended to complement forthcoming NPIC reports which will update information on the probable antimissile missile (AMM) installations at Leningrad and Sary Shagan.

Photography used in the preparation of this report includes TALENT and KEYHOLE coverage of the Leningrad area through Mission [REDACTED]

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[REDACTED] An attempt is made to reconstruct the chronological development of the Leningrad SAM defense ring.

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This report does not discuss the four Leningrad SAM support and storage facilities in detail as a future NPIC report will treat this subject separately.

New and revised information from later missions on Leningrad SA-3 activities contained in this report supersedes any conflicting data published in NPIC report R-207/63, 1.

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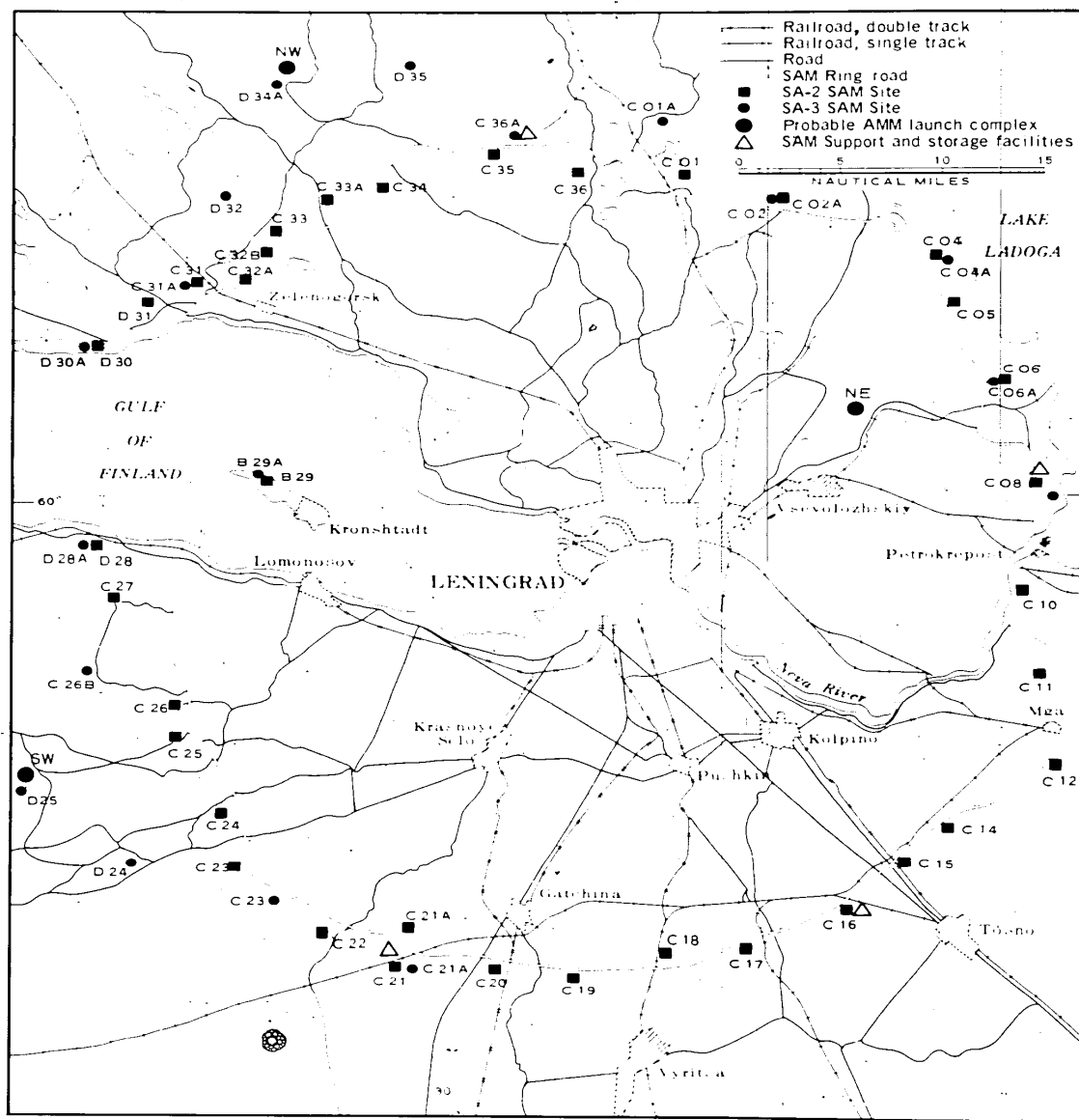


FIGURE 1. SA-2 AND SA-3 SAM SITES, LENINGRAD RING, USSR.

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INTRODUCTION

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A total of 36 SA-2 SAM sites, 18 SA-3 SAM sites, and 4 SAM support and storage facilities have been deployed around Leningrad since [REDACTED]. First evidence of SAM activity at Leningrad appeared in [REDACTED] when portions of the Leningrad SAM ring road were covered by TALENT photography.

There is an hiatus of photography between

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[REDACTED] when no coverage of the area was provided.

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The deployment of SA-3s around Leningrad was begun in [REDACTED] and has continued to date. The pattern of their deployment is more readily traceable than for the SA-2s because more intensive photographic coverage is provided during this period.

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SA-2 SAM DEPLOYMENT

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First photographic evidence of SAM activity at Leningrad appeared in [REDACTED] when portions of the Leningrad SAM ring road, access roads, and construction activity at one of the SAM support facilities were observed on TALENT coverage.

A prototype research and development SA-2 site was observed at the Kapustin Yar Vladimir-

irovka Missile Test Center, USSR, in [REDACTED].

It is believed that the development of the SA-2 system was begun prior to this time. 2/

First identification of 4 SA-2 SAM sites at Leningrad on KEYHOLE photography took place in [REDACTED]. Subsequent KEY-

HOLE photography through [REDACTED] revealed an additional 32 sites.

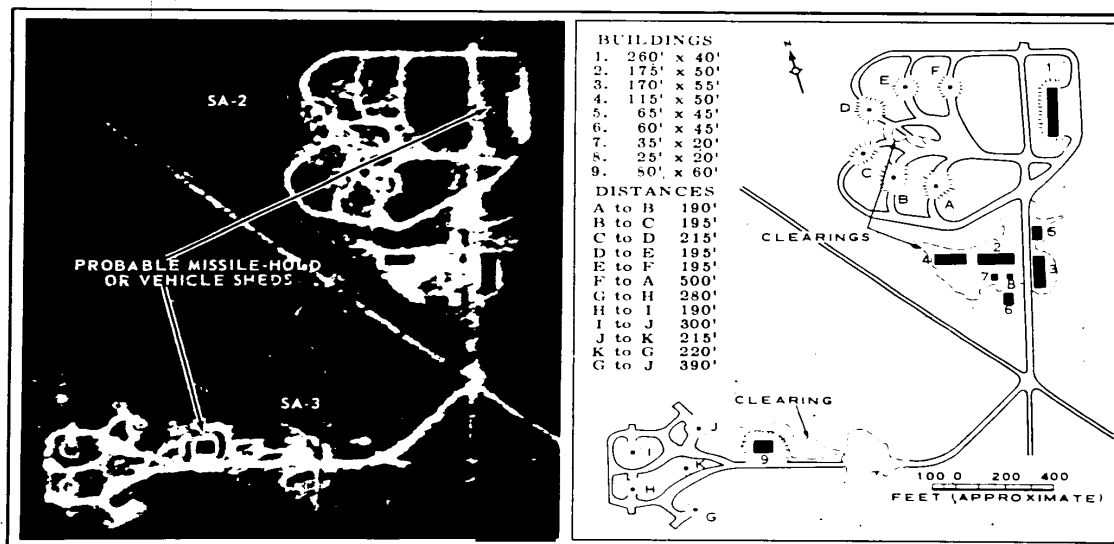


FIGURE 2. CHEVRON-CONFIGURATION SA-2 SITE (D28) AND COLLOCATED SA-3 SITE (D28A).

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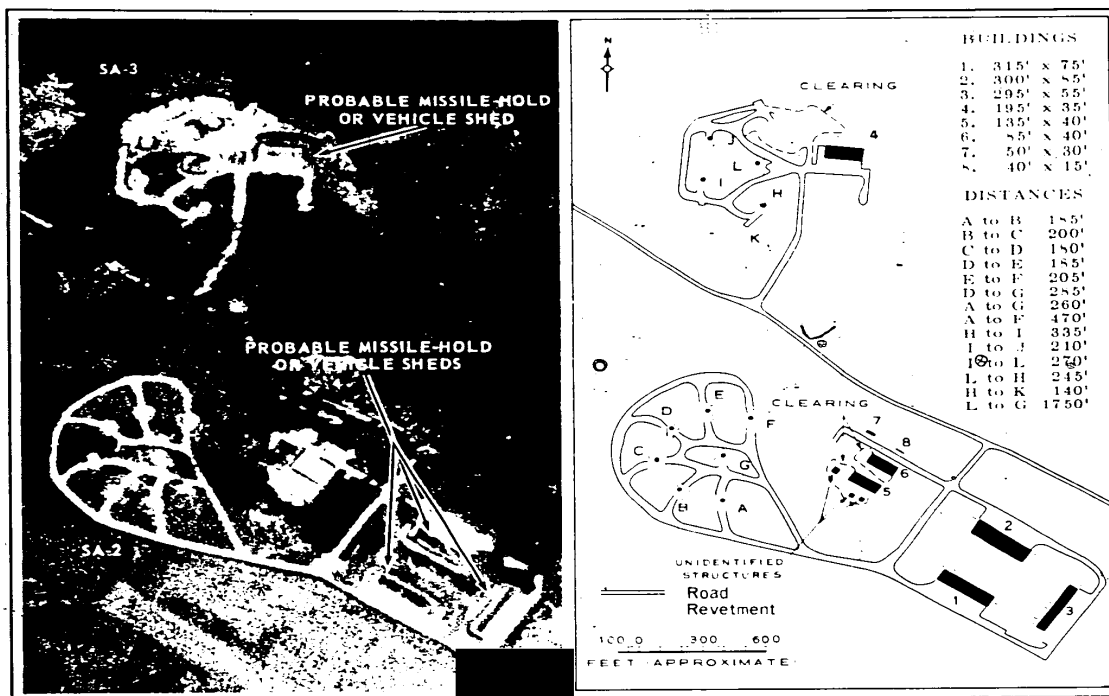


FIGURE 3. TYPICAL FAN-CONFIGURATION SA-2 SITE (B29) AND COLLOCATED G-CONFIGURATION SA-3 SITE (B29A).

These sites are connected by access roads to the Leningrad SAM ring road and range from 20 to 31 nautical miles (nm) in radial distance from Leningrad (Figure 1). The SA-2 sites around Leningrad fall into two categories of configurations, the chevron (Figure 2) and fan (Figure 3).

All of the SA-2 sites have an on-site support

facility consisting of one large revetted building (Figure 2). The exception is Site B-29 on Ostrov Kotlin, which has three such revetted buildings (Figure 3). These buildings probably are used as missile-hold or vehicle sheds. From four to six other smaller buildings comprise the remainder of the typical support area for the SA-2 sites.

SA-3 SAM DEPLOYMENT

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A total of 18 SA-3 SAM sites have been identified to date around Leningrad through KEYHOLE coverage including that of [REDACTED]

First identification of these sites was

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made in [REDACTED] when two of the G-configuration sites were observed west of Leningrad (Table 2). Subsequent coverage has revealed the development of the SA-3 defense

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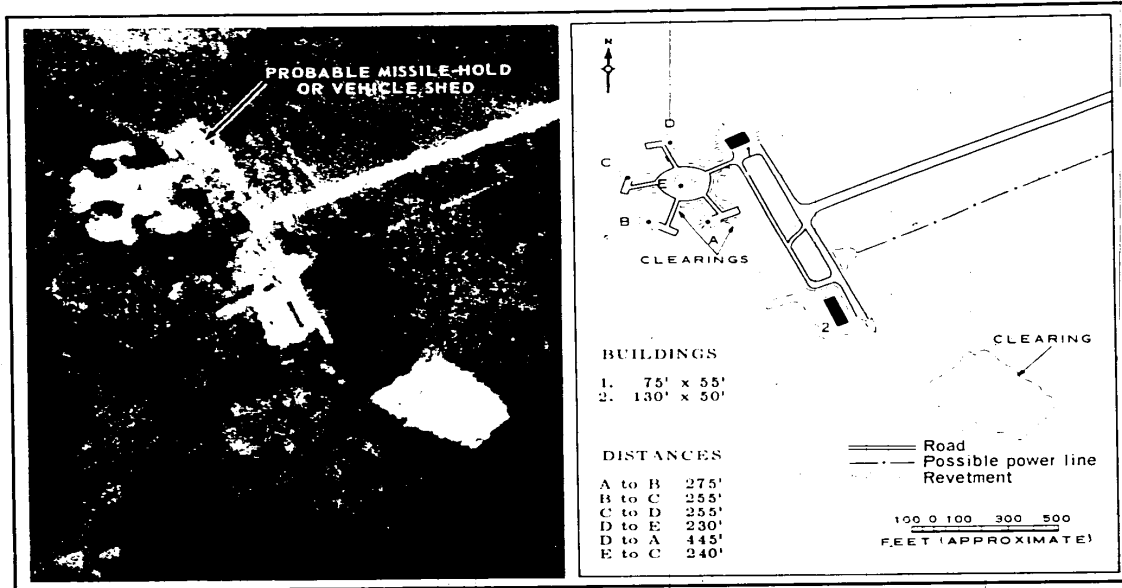


FIGURE 4. SINGLY DEPLOYED J-CONFIGURATION SA-3 SITE (D25).

system spreading eastward around the Leningrad ring road. The last two SA-3 sites identified, one of which still is under construction, were observed closing the ring in the northeast quadrant of the defense ring. A gap remains in the southeast quadrant of the ring between sites C08 and C21A (Figure 1) where it is estimated six to eight new SA-3 sites will be constructed.

Ten of the SA-3 sites at Leningrad are deployed singly and eight are collocated with SA-2 sites. A limited analysis of the on-site support facilities at SA-3 sites reveals that each has a revetted hold area located behind the site on the access road. 3/ Where the site is complete, a

building is visible in the revetment, probably as a missile-hold or vehicle shed (Figure 4).

It is difficult to determine the associated support buildings for collocated SA-3 sites since they appear to share support buildings at the SA-2 sites. The minimum support area for a completed SA-3 site appears to consist of a revetted probable missile-hold or vehicle shed, two administrative-type buildings, and at least one or two smaller buildings, possibly to house electronics equipment. This conclusion is based on the support buildings discernible at six of the completed singly deployed SA-3 sites.

LENINGRAD SAM SUPPORT AND STORAGE FACILITIES

There are four SAM support and storage facilities near Leningrad. A future NPIC report will discuss these in detail; however, the follow-

ing highlights about them are included in this report:

1. First evidence of construction was vis-

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ible at one of the facilities in [REDACTED] when clearing was begun at the support site. This is the site located at 59-34-50N 30-44-00E.

2. Buildings and layout of the support and storage facilities are similar to the Istra-type support and storage facilities at Moscow.

CONCLUSIONS

From the available data, the following conclusions are drawn concerning development and construction of the SA-2 and SA-3 defense systems around Leningrad:

1. A SAM defense system for Leningrad was programmed as early as [REDACTED].

2. Time limits on completion of the SA-2 SAM system are difficult to establish. Available photography reveals that development was accomplished sometime in the 6-year span between [REDACTED].

3. The pattern of SA-3 SAM site deployment suggests that the SA-2 sites were deployed in

a similar manner around Leningrad.

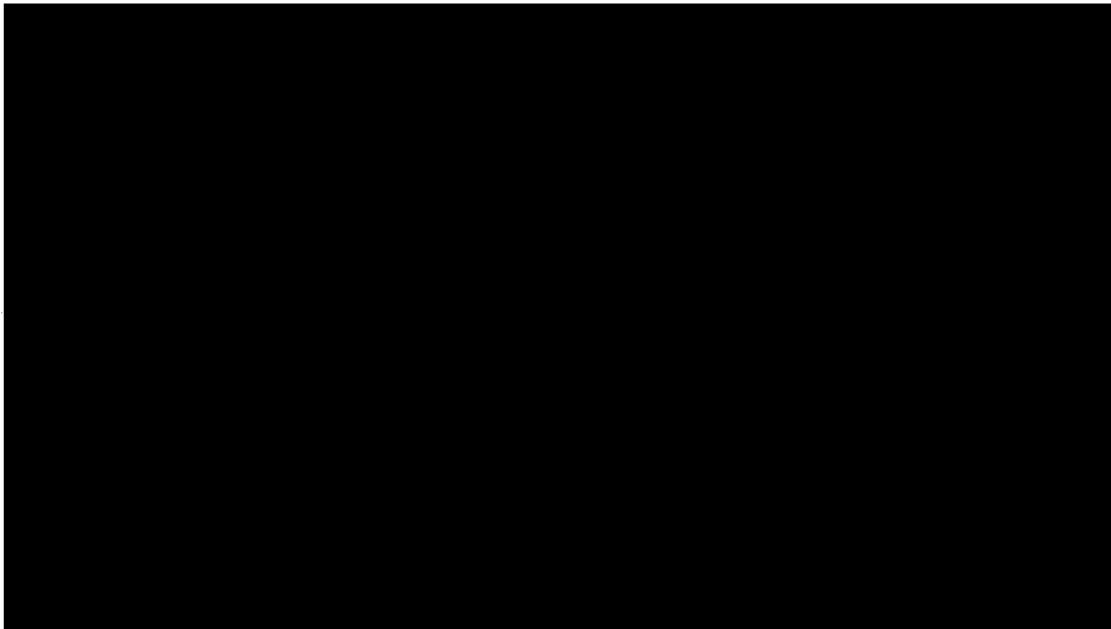
4. The SA-3 SAM sites at Leningrad are among the first deployed in the USSR. This, together with other factors, suggests that SA-2 sites were deployed at Leningrad early in the development of the overall Soviet defense picture.

5. The deployment of SA-3 SAM sites begun in [REDACTED] is incomplete. On the basis of average distance between SA-3 sites (8.3 nm), it is estimated that six to eight new SA-3 sites will be constructed in the southeast quadrant of the defense ring.

REFERENCES

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PHOTOGRAPHY



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NPIC. R-183 63, Towers at SA-3 SAM Sites, USSR, Aug 63 (TOP SECRET RUFF)
NPIC. R-236 63, Search for Elevated Electronics Equipment at SA-3 SAM Sites, USSR, Oct 63 (TOP SECRET RUFF)

REQUIREMENT

Army. TK SRI-9-1-61

NPIC PROJECT

J-80 63 (partial answer)